

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
---	----------------------------

Appropriation/Budget Activity	R-1 Program Element (Number/Name)											
1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	PE 0206629M / <i>Amphibious Assault Vehicle</i>											
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	-	96.207	48.535	-	48.535	49.414	65.038	14.631	12.280	Continuing	Continuing
2938: <i>Amphibious Assault Vehicle</i>	0.000	-	96.207	48.535	-	48.535	49.414	65.038	14.631	12.280	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Assault Amphibious Vehicle (AAV) program provides life-cycle support to ensure cost-effective combat readiness for the AAV Family of Vehicles (FOV). This is accomplished through engineering changes resulting from continuous review of sub-systems to maintain system supportability, safety, reduce total ownership costs, improve fleet readiness, address obsolescence issues, and improve vehicle survivability and performance.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	96.207	48.535	-	48.535
Total Adjustments	-	96.207	48.535	-	48.535
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-8.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	104.207			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	48.535	-	48.535

Change Summary Explanation

The decrease (\$47.672M) from FY15 to FY16 represents the completion of the AAV Survivability Upgrade prototype build and completion of nonrecurring engineering and design efforts for AAV turret and R7 recovery variant improvements.

NOTE: FY14 and prior funding is reflected in P.E. 0206623M/Project 0021.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206629M / Amphibious Assault Vehicle				Project (Number/Name) 2938 / Amphibious Assault Vehicle			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2938: Amphibious Assault Vehicle	-	-	96.207	48.535	-	48.535	49.414	65.038	14.631	12.280	Continuing	Continuing
Quantity of RDT&E Articles		-	10	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Assault Amphibious Vehicle (AAV) program provides life-cycle support to ensure cost-effective combat readiness for the AAV Family of Vehicles (FOV). This is accomplished through engineering changes resulting from continuous review of sub-systems to maintain system supportability, safety, reduce total ownership costs, improve fleet readiness, address obsolescence issues, and improve vehicle survivability and performance. The AAV program also includes a survivability upgrade which will increase AAVP7A1 survivability and force protection while maintaining the required land and water mobility performance. This upgrade is derived from the need for an operationally effective amphibious armored personnel carrier capability bridge until the future amphibious combat vehicle reaches full operational capability.

The decrease (\$47.672M) from FY15 to FY16 represents the completion of the AAV Survivability Upgrade prototype build and completion of nonrecurring engineering and design efforts for AAV turret and R7 recovery variant improvements.

NOTE: FY14 and prior funding is reflected in P.E. 0206623M/Project 0021.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Product Development	-	56.140	21.852	-	21.852
Articles:	-	10	-	-	-
Description: AAV Survivability Upgrade will improve the legacy AAV Force Protection capability. Improvements include improved underbelly protection, integrated blast mitigating seats, integrated spall liners, protected fuel storage, sponson armor, and selected improvements to maintain required water and land mobility. AAV modifications will provide NRE and design for AAV safety, obsolescence, and performance improvement engineering change proposals.					
FY 2014 Accomplishments: FY14 accomplishments are justified in program element 0206623M and project 0021.					
FY 2015 Plans: -Complete Critical Design Review. Down select to prime contractor; award EMD prototype build option. -Continue nonrecurring engineering efforts to support AAV safety improvements, turret improvements, electrical modernization and R7 Recovery Variant improvements.					
FY 2016 Base Plans:					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy				Date: February 2015		
Appropriation/Budget Activity 1319 / 7		R-1 Program Element (Number/Name) PE 0206629M / Amphibious Assault Vehicle		Project (Number/Name) 2938 / Amphibious Assault Vehicle		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Initiate prime contractor support for Developmental, Operational, and Live Fire Test and Evaluation (LFT&E). -Initiate nonrecurring engineering effort for the powerpack upgrade.						
FY 2016 OCO Plans: N/A						
Title: Support		-	23.786	15.559	-	15.559
Articles:		-	-	-	-	-
Description: Provide government engineering and technical support for AAV safety, obsolescence, and performance modifications, and Survivability Upgrade support.						
FY 2014 Accomplishments: FY14 accomplishments are justified in program element 0206623M and project 0021.						
FY 2015 Plans: -Continue nonrecurring engineering and design for AAV electrical and command and control (C2) systems modernization. -Initiate nonrecurring engineering and design for upgraded fire suppression system, and AAV obsolescence and performance modifications. -Continue to provide government engineering services in support of AAV safety, obsolescence, and performance modifications. -Provide material and travel associated with these efforts.						
FY 2016 Base Plans: -Initiate nonrecurring engineering and design for AAV hydraulic modernization and fuel cell day tank upgrade. -Continue nonrecurring engineering and design for AAV fire suppression system, electrical modernization, and command and control (C2) systems modernization. -Continue to provide technical and engineering services in support of AAV obsolescence and performance modifications. -Provide material and travel associated with these efforts.						
FY 2016 OCO Plans: N/A						
Title: Test and Evaluation		-	1.608	6.648	-	6.648
Articles:		-	-	-	-	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy				Date: February 2015		
Appropriation/Budget Activity 1319 / 7		R-1 Program Element (Number/Name) PE 0206629M / Amphibious Assault Vehicle		Project (Number/Name) 2938 / Amphibious Assault Vehicle		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
<p>Description: Developmental Operational and Livefire Test and Evaluation of safety improvements, upgrades, modifications and fact of life changes to ensure operational suitability and effectiveness of the AAV family of vehicles.</p> <p>FY 2014 Accomplishments: FY14 accomplishments are justified in program element 0206623M and project 0021.</p> <p>FY 2015 Plans: Initiate government developmental, operational, and live fire test planning for survivability upgrade, enhanced applique armor kit (EAAK) Phase III and electromagnetic environmental effects (E3) Co-site testing.</p> <p>FY 2016 Base Plans: -Conduct developmental testing for survivability upgrade and initiate operational assessment and live fire test and evaluation activities in support of survivability upgrade.</p> <p>FY 2016 OCO Plans: N/A</p>						
<p>Title: Management and Engineering Technical Services</p> <p>Articles:</p> <p>Description: Management support services technical support for program office and field activities</p> <p>FY 2014 Accomplishments: FY14 accomplishments are justified in program element 0206623M and project 0021.</p> <p>FY 2015 Plans: -Continue program management services in support of ECP development, trade studies and analysis, supply chain and government property management in support of AAV sustainment and modification efforts. -Continue to provide program management services in support of AAV Survivability Upgrade.</p> <p>FY 2016 Base Plans: -Continue program management services in support of ECP development, trade studies and analysis, supply chain and government property management in support of AAV sustainment modification efforts.</p> <p>FY 2016 OCO Plans:</p>		- -	14.673 -	4.476 -	- -	4.476 -

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015	
Appropriation/Budget Activity 1319 / 7				R-1 Program Element (Number/Name) PE 0206629M / Amphibious Assault Vehicle				Project (Number/Name) 2938 / Amphibious Assault Vehicle			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)											
				FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total			
N/A											
Accomplishments/Planned Programs Subtotals				-	96.207	48.535	-	48.535			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• PMC/2021: AAV Product Improvement Program	32.036	15.356	26.744	-	26.744	114.291	115.154	153.174	137.520	1,289.892	2,812.248
• RDTEN/0206623M: MC Ground Combat Support Arms System	31.543	-	-	-	-	-	-	-	-	-	168.605
Remarks											
D. Acquisition Strategy											
<p>The USMC competitively awarded two contracts in FY14 for development efforts in support of upgrading 392 Assault Amphibious Vehicles. Down select to one contractor for manufacture of prototype vehicles occurs in FY15. The program's main focus is on improving Marine force protection capabilities. To support the required capabilities, the Survivability Upgrade program will seek to incorporate Non-Developmental Items (NDI) and/or Commercial off the Shelf (COTS) solutions into the existing AAVP7A1 Reliability, Availability, Maintainability/Rebuild to Standard (RAM/RS). The acquisition strategy seeks to minimize cost and schedule, and maximize value, technology readiness, and commonality, while ensuring the selected manufacturer meets selected capability attributes established for the AAVP7A1 RAM/RS. RDT&E funds competitive designs followed by contract options for EMD and production. IOC is scheduled for FY19.</p>											
E. Performance Metrics											
<p>Milestone Reviews:</p> <p>Milestone C: 2nd quarter of FY17</p>											

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy												Date: February 2015			
Appropriation/Budget Activity 1319 / 7						R-1 Program Element (Number/Name) PE 0206629M / Amphibious Assault Vehicle				Project (Number/Name) 2938 / Amphibious Assault Vehicle					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Syst Design & Dev / EMD	C/FFP	MCSC : Quantico, VA	0.000	-		50.029	Mar 2015	19.446	May 2016	-		19.446	Continuing	Continuing	Continuing
Other Product Development	C/BA	Various : Various	0.000	-		6.111	Mar 2015	2.406	Feb 2016	-		2.406	Continuing	Continuing	Continuing
Subtotal			0.000	-		56.140		21.852		-		21.852	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	Various : Various	0.000	-		0.325	Oct 2014	0.465	Oct 2015	-		0.465	Continuing	Continuing	Continuing
In-House Technical Support	Various	Various : Various	0.000	-		23.461	Apr 2015	15.094	Feb 2016	-		15.094	Continuing	Continuing	Continuing
Subtotal			0.000	-		23.786		15.559		-		15.559	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	Various	Various : Various	0.000	-		1.608	Mar 2015	6.648	Feb 2016	-		6.648	Continuing	Continuing	Continuing
Subtotal			0.000	-		1.608		6.648		-		6.648	-	-	-
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support Svcs	C/FFP	MCSC : Quantico, VA	0.000	-		9.518	Apr 2015	1.180	Apr 2016	-		1.180	Continuing	Continuing	Continuing
Engineering and Technical Services	Various	Various : Various	0.000	-		5.155	Dec 2014	3.296	Mar 2016	-		3.296	Continuing	Continuing	Continuing
Subtotal			0.000	-		14.673		4.476		-		4.476	-	-	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy										Date: February 2015			
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206629M / <i>Amphibious Assault Vehicle</i>				Project (Number/Name) 2938 / <i>Amphibious Assault Vehicle</i>				
	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		96.207		48.535		-		48.535	-	-	-
Remarks													

UNCLASSIFIED

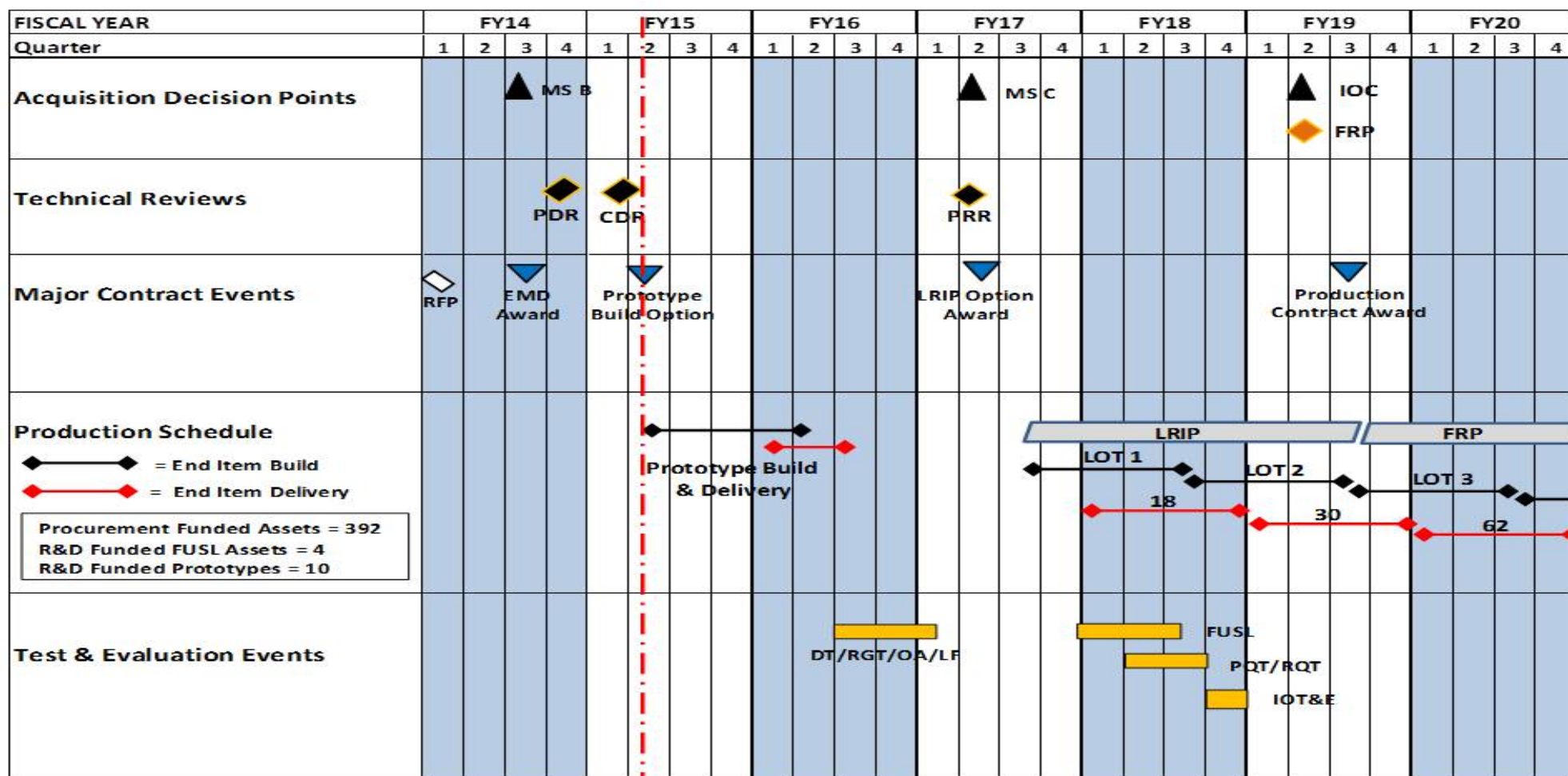
Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy

Date: February 2015

Appropriation/Budget Activity
1319 / 7

R-1 Program Element (Number/Name)
PE 0206629M / Amphibious Assault Vehicle

Project (Number/Name)
2938 / Amphibious Assault Vehicle



UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206629M / <i>Amphibious Assault Vehicle</i>	Project (Number/Name) 2938 / <i>Amphibious Assault Vehicle</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 2938</i>				
MS B	3	2014	3	2014
EMD Contract Award	3	2014	3	2014
CDR	2	2015	2	2015
Prototype Build Option	2	2015	2	2015
Developmental Test and Evaluation	3	2016	1	2017
MS C	2	2017	2	2017
LRIP Option Award	2	2017	2	2017
LRIP	3	2017	3	2019
IOT&E	4	2018	4	2018
Full Rate Production Contract Award	3	2019	3	2019